

CLAIMS

1           1. A system for improved load balancing in a client/server environment,  
2 comprising:  
3           at least one caching/ hashing switch (CHS) coupled between clients and servers  
4 in said client/server environment, said CHS storing previously-requested objects;  
5           wherein object requests for objects stored in said CHS are satisfied  
6 immediately from said CHS.

1           2. The systems of claim 1, wherein said CHS also hashes object requests, and  
2 wherein:

3           object requests which are not stored in said CHS are hashed;  
4           each of said hashed object requests are forwarded to a respective server on  
5 which each requested object is stored;  
6           each of said requested objects is forwarded to said CHS and stored thereon;  
7 and  
8           a copy of each of said requested objects is returned to a respective client  
9 requesting said object.

1           3. The system of claim 2, wherein said objects are web objects and wherein  
2 said CHS comprises:  
3           a web proxy cache; and

4 a URL-hashing switch coupled to said web proxy cache.

1 4. The system of claim 2, wherein said objects are web objects and wherein  
2 said CHS comprises:

3 software means configured to operate as a web proxy cache for storing  
4 retrieved web objects; and

5 software means configured to operate as a URL-hashing switch, for hashing  
6 said web object requests and forwarding said hashed web object requests to said  
7 respective servers.

1 5. The system of claim 4, wherein said client/server environment comprises a  
2 plurality of clients coupled to at least one server farm via a network connection.

1 6. The system of claim 4, wherein said client server environment comprises a  
2 plurality of clients coupled to a plurality of server farms via a network connection,  
3 and wherein each of said server farms has a CHS associated therewith, and wherein  
4 said system further comprises:

5 a Level 4 switch coupled between said network connection and said CHS's.

1 7. A method of improved load balancing in a client/server environment,  
2 comprising the steps of:

3 receiving an object request from a client;

4 determining if the object requested by said object request is stored in a cache  
5 coupled between said client and a server farm;

6 if said object is stored in said cache, immediately returning a copy of said  
7 object to said client; and

8 if said object is not stored in said cache, then:

9 hashing said object request;

10 forwarding said hashed object request to said server farm;

11 forwarding said requested object from said server farm to said cache for  
12 storage; and

13 returning a copy of said requested object to said client.

1 8. A computer program product for providing improved load balancing in a  
2 client/server environment, comprising:

3 means for receiving an object request from a client;

4 means for determining if the object requested by said object request is stored in  
5 a cache coupled between said client and a server farm;

6 means for immediately returning a copy of said object to said client if said  
7 object is stored in said cache; and

8 means for:

9 hashing said object request;

10 forwarding said hashed object request to said server farm;

11 forwarding said requested object from said server farm to said cache for  
12 storage; and  
13 returning a copy of said requested object to said client,  
14 if said object is not stored in said cache.

1 9. An improvement to a load balancing system in a client/server environment  
2 having at least one client and a plurality of servers coupled via a network connection,  
3 and a hashing switch coupled between said network connection and said plurality of  
4 servers, said improvement comprising:  
5 a cache coupled between said network connection and said hashing switch,  
6 said cache storing previously requested objects and configured to satisfy requests for  
7 said previously requested objects without passing said requests to said hashing switch.